

GPS PLUS 2006 Collar

High-grade GPS Collar for challenging studies

The GPS PLUS 2006 Collar has been designed to give scientists the most flexible solution for all kind of wildlife studies.

The GPS PLUS 2006 Collar provides GPS position, fine scale temperature and activity information and other sensor data ideally suited for your studies. One of the most important features is the flexible wireless data communication in both directions on demand while the collar is on the animal. At any time scientists have wireless access to the collar for downloading GPS positions, temperature, activity and mortality data, or uploading new GPS or beacon schedules. This capability is a valuable tool when instant access to your collar is required. The GPS PLUS 2006 collar can be equipped additionally with a GSM modem (850/900/1800/1900 MHz) or with an ARGOS transmitter.



Multiple Communication Options

- UHF 2-way communication for data download and collar reprogramming
- GSM 2-way communication for GPS data download and collar reprogramming
- ARGOS transmitter

Multiple Sensor Options

- GPS Position
- Activity sensor (acceleration)
- Temperature
- Mortality
- Hibernation
- Wireless interaction monitoring between GPS PLUS Collars or GPS PLUS Collar and external Ear Tags
- Virtual Fences (GSM Collars only)



UHF bi-directional communication

The GPS PLUS collar comes with an integrated UHF radio transceiver to download data on demand or to receive new schedules while the collar is still on your animal. Depending on country regulations different frequencies and power levels are available. The UHF radio transceiver is available from 420 - 460 MHz and 860 - 925 MHz, the output power is adjustable from 10mW to 2 Watt.

GSM bi-directional communication

In addition to the UHF transceiver the GPS PLUS collar can be equipped with a GSM Modem which sends the GPS and mortality data as single or multiple SMS to your office. In case of no GSM coverage the data will be re-sent later when the collar is back in GSM coverage. New schedules or advanced configurations might be uploaded to the collar via SMS too.

ARGOS Transmitter

Another communication option is the internal ARGOS transmitter for uploading GPS position data to the ARGOS satellites.

SENSORS

In addition to the GPS position the GPS PLUS 2006 system offers the possibility to measure and store different kind of data. Sensors can be added without increasing size and weight of the collar:

Ambient temperature monitoring

The GPS PLUS collar stores every five minute the ambient temperature with a resolution of 1°C over a period of up to 3.5 years.

Activity monitoring

The powerful 3-axis activity sensor measures the true acceleration of the animal 6 - 8 times per second. Different configurations are user selectable for optimum results (accumulated value, count of activity events, up-down count, etc.). The activity data is stored like the temperature information every 5 minutes over a period of up to 3.5 years.

Mortality detection

The collar detects and stores up to 132 possible mortality events (time and date). In case of an event, the repetition rate of the VHF beacon transmitter will switch from 48 to 96 bpm.

Hibernation sensor

The collar switches automatically to hibernation mode, saving battery power if the animal's movement and activity schemes are quite low (GPS receiver will be switched off) and will re-enter normal operation if the animal is moving again.

Virtual Fences (only with GSM option)

The collar sends an SMS when it has entered or left user definable polygons. The polygons can be updated via SMS (Short Message Service).

Interaction Monitoring

The collar receives information from other GPS PLUS 2006 Collars or from radio Ear Tags. The signal strength and the transmitter ID will be stored.

External Wireless Sensors

The collar receives sensor data from external sensors, e.g. from implants. The ID and the data of the sensor will be stored

The following specifications are to be understood as approximate values. The weight of the collar depends on the size (length and width of the belt). The lifetime is depending on the configuration of the collar (number of hours in reception mode per day [1..24]) and on the GSM coverage. The lifetime with GSM communication is based on a medium quality GSM coverage with 7 GPS positions per SMS.

GPS PLUS 2006, no GSM and no UHF communication

Battery Pack	Collar weight	Worst case calculation	Average calculation	Best field calculation	Open Land calculation
1C	350	1500	3000	6000	9000
1D	420	4500	9000	18000	27000
2D	600	10000	20000	40000	60000
3D	800	16000	32000	64000	96000
4D	950	22500	45000	90000	135000
5D	1150	29500	59000	118000	177000
7D	1350	41500	83000	166000	249000

GPS PLUS 2006 with GSM communication

Battery Pack	Collar weight	Worst case calculation	Average calculation	Best field calculation	Open Land calculation
1C	380	1125	1950	3000	4050
1D	450	3375	5850	9000	12150
2D	630	7500	13000	20000	27000
3D	830	12000	20800	32000	43200
4D	980	16875	29250	45000	60750
5D	1180	22125	38350	59000	79650
7D	1380	31125	53950	83000	112050

GPS PLUS 2006, UHF communication 24 h/day

Battery Pack	Collar weight	Worst case calculation	Average calculation	Best field calculation	Open Land calculation
1C	350	460	830	1320	1500
1D	420	3220	5810	9240	10500
2D	600	8280	14940	23760	27000
3D	800	13800	24900	39600	45000
4D	950	19780	35690	56760	64500
5D	1150	26220	47310	75240	85500
7D	1350	37260	67230	106920	121500

GPS PLUS 2006, GSM + UHF communication 24 h/day

Battery Pack	Collar weight	Worst case calculation	Average calculation	Best field calculation	Open Land calculation
1C	380	345	540	660	675
1D	450	2415	3777	4620	4725
2D	630	6210	9711	11880	12150
3D	830	10350	16185	19800	20250
4D	980	14835	23199	28380	29025
5D	1180	19665	30752	37620	38475
7D	1380	27945	43700	53460	54675

Worst case calculation: GPS receiver is switched on for max. 180 s; Average calculation: GPS receiver is switched on in average for 90 s; Best field calculation: GPS receiver is switched on in average for 45 s; Open land calculation: No obstacles in the reception path of the GPS receiver; Ambient average temperature of 0°C